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AUTHOR Kaltsounis, Bill
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ABSTRACT

This study examined the creative performance among siblings of various ordinal birth positions. Subjects were 36 male elementary students, nine sets of four brothers with no additional siblings of either sex in their families. Their families were primarily of middle socioeconomic status and both parents were college graduates. Each subject was given the Torrance Tests of Thinking Creatively, Verbal and Figural Forms A. An analysis of variance was used to test the differences between first-, second-, third-, and fourth-born groups on figural and verbal fluency, flexibility, originality, and on figural elaboration. Results showed significant differences among the four groups of siblings for figural fluency, figural flexibility, verbal fluency, verbal flexibility and verbal originality. Results of Scheffe's multiple comparisons indicated that the second-born were mainly responsible for the rejection of the null hypothesis. (Author/JMB)

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CREATIVE PERFORMANCE AMONG SIBLINGS OF VARIOUS ORDINAL BIRTH POSITIONS

BILL KALTSOUNIS
Middle Tennessee State University

Research has shown that birth order may affect a person's academic achievement. Personality profiles have been drawn up for all ordinal positions. However, the research has been centered on adults, adolescents, and the years of middle childhood. Very little research has been conducted involving children of elementary school age.

In studies of young children Koch (1956) found that all first-born articulate better. However, Rubin, Hultsch & Peters (1971) found that the quality of non-social speech in four year olds did not differ. Skovholt, Moore & Wellman (1973) showed that achievement and motivation were greater among first-born boys. Altus (1966) found that the first-born tends to be more conservative and that this conservativism would suggest a lack of creativity. Ahe, Tsiyi, & Suzuki (1963) in assessing drawings of three year old Japanese children observed that later-born children scored higher than first-born children. Aldous (1973) found disimilar results in a study on originality with third grade children. Finally, Breland (1974) studied adolescents who were National Merit Scholarship finalists. Among the finalists Breland found more first-born and only children from small families who showed verbal skill. These conflicting findings indicate the necessity of further investigation into the relationship between creative performance and birth order. Also, characteristics of localities are needed to justify generalizations. The purpose of the present investigation is to examine the creative performance among siblings of various ordinal birth positions.

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METHOD

Thirty-six male elementary students were chosen for this study. They con-

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stituted nine sets of four brothers. Age-wise they were ranging from under nine years to over thirteen years or a little over a year apart from each other. They were equally distributed in grades three, four, five and six. Both of their parents were college graduates. Their socioeconomic status was determined by their father's occupation (Warner, Meeker, & Eell, 1949). Ss were primarily of middle socioeconomic status, as their fathers were professionals, propriators and managers, businessmen and clerks.

Ss' creative ability was measured by Torrance's Tests of Thinking Creatively With Pictures and Words, Form A (Torrance, 1974), administered and scored by the author who had more than a decade of experience in the administration and scoring of Torrance tests of creativity. Each figural activity was scored for fluency, flexibility, originality, and elaboration, with the exception of the first task which was scored for originality and elaboration. Each verbal activity was scored for fluency, flexibility, and originality according to the standard scoring directions (Torrance, 1966). The fluency score was the number of relevant scoreable responses made by the subject. The flexibility score was the variety of ideas produced by shifting from one approach to another. Originality was determined for each response separately and was based on the weight given each response. Responses showing statistical infrequency were assigned scoring weight of two points; obvious irrelevant, or incomprehensible responses were assigned weight of zero. Elaboration was obtained by counting different details used in developing the ideas expressed on each item. An analysis of variance was used to test the differences among the raw score means for first-, second-, third-, and fourth-born groups on each of the Torrance subscores.

RESULTS AND DISCUSSION

Table 1 shows the raw score means and standard deviations for the subscores

of each of the four groups of siblings. Table 2 summarizes an analysis of variance for each of the seven dependent variables among the four groups of siblings. There were significant differences among the four groups of siblings for figural fluency, figural flexibility, verbal fluency, verbal flexibility, and verbal originality. The null hypothesis of no treatment differences was rejected ($p=.05$). The Scheffe (1957) method of multiple comparisons was applied to isolate the comparisons among the means for the four groups which contributed to the rejection of the null hypothesis. The results clearly indicated that in the case of both creativity tests the second-born were mainly responsible for the rejection of the null hypothesis. The patterns of results, however, were interesting. On figural fluency the second and third-born were significantly higher than the fourth-born. In the case of figural flexibility, originality, and elaboration, none of the groups were significantly different. With regard to the verbal creativity test, second-born were significantly higher than first born in both fluency and flexibility. Finally, second-born were significantly higher than first and fourth-born in verbal originality.

The results of the present investigation seem to be in agreement with findings reported earlier by Altus (1966) and Ahe, Tsiyi, & Suzuki (1963). A perusal of Table 1 will also indicate that fourth-born exhibited by far less creative ability on both tests than any other group. Perhaps the fact that they were in the third grade had something to do with their performance especially on the verbal creativity test.

The research supporting one group of siblings' performance on creativity tests over another is limited at this point. Further research is necessary with a larger population to determine how siblings of various ordinal birth positions rank on tests of creativity.

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TABLE 1

MEANS AND STANDARD DEVIATIONS FOR FOUR GROUPS OF SIBLINGS ON TORRANCE TESTS OF THINKING CREATIVELY WITH PICTURES AND WORDS, FORM A (N=36)

Creativity Measures	Siblings			
	First-Born	Second-Born	Third-Born	Fourth-Born
Thinking Creatively With Pictures				
Fluency	50.3±6.1	55.1±3.7	51.7±8.1	41.4±7.5
Flexibility	57.2±7.3	58.4±4.2	57.7±10.2	47.8±8.2
Originality	56.6±9.4	61.7±10.5	58.8±11.9	48.2±13.8
Elaboration	52.4±8.5	60.0±10.2	56.7±10.7	52.9±9.3
Thinking Creatively With Words				
Fluency	42.7±5.0	53.6±3.6	46.3±5.9	44.8±7.2
Flexibility	54.6±7.7	67.8±2.0	56.4±8.8	54.0±9.9
Originality	41.1±2.6	50.3±4.3	45.2±4.5	42.1±5.4

TABLE 2

SUMMARY OF ANALYSIS OF VARIANCE FOR SCORES ON TORRANCE TESTS OF THINKING CREATIVIELY WITH PICTURES AND WORDS, FORM A BY FOUR GROUPS OF SIBLINGS (N=36)

	Source	df	MS	F	P
Thinking Creatively With Pictures					
Fluency	Between	3	305.06	6.29	<.01
	Within	3^2	48.53		
Flexibility	Between	3	277.30	3.32	<.05
	Within	3^2	68.54		
Originality	Between	3	301.52	2.03	
	Within	3^2	148.73		
Elaboration	Between	3	113.30	1.10	
	Within	3^2	104.20		
Thinking Creatively With Words					
Fluency	Between	3	201.07	5.79	<.01
	Within	3^2	34.74		
Flexibility	Between	3	377.21	5.64	<.01
	Within	3^2	66.94		
Originality	Between	3	153.07	7.42	<.01
	Within	3^2	31.98		